



# The Science Explorer

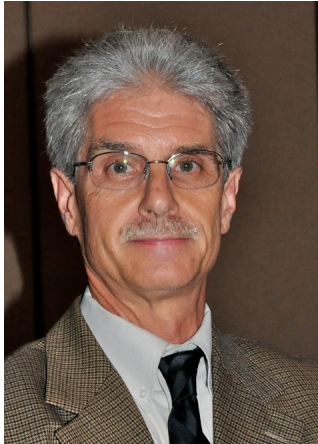
Suffolk Section: Science Teachers Association of New York State

Volume 41

Number 3

Summer 2013

## The Chairperson's Corner



**Glen Cochrane**

The school year is ending and I thank all those members of Suffolk STANYS for their efforts. Last October, Melissa Torre organized our annual materials and book fair (MATEX) that

drew many local science teachers to see the latest offerings in texts, supplies and programs. Last April, James Ripka coordinated a successful Spring Conference at the University at Stony Brook. Watch for our email offerings for a trip this summer to a newly remodeled Thomas Edison museum in New Jersey.

I'd like all teachers to be aware of potential changes as to what and how science education takes place in New York. You should know that STANYS is involved. The Next Generation Science Standards (NGSS) is the latest document that is part of the movement toward "national standards" and New Yorkers are currently reviewing the final version. The New York State Education Department (NYSED) is planning a survey comparing the current standards to NGSS. (The survey might be over by the time you read this.) It is possible that the Board of Regents may take a position regarding the adoption of NGSS as early as this September. Most agree that our current core standards and assessments certainly could use review and possible revisions in light of the trends toward

the current STEM initiatives and common core. It seems we are on the verge of such change. We must do our best to keep science education, our standards and assessments in New York among the best in the nation.

If the Board of Regents chooses to embrace the new standards of NGSS, I hope the package includes consideration for all that is involved. New NGSS standards could result in a significant change in what and how we teach science. How closely will new the standards in New York be aligned to NGSS? How about the professional development needed that will incorporate new curricular materials, lab and classroom activities, which address new standards. Elementary science education could see the biggest changes since NGSS outlines standards for each elementary grade level as well as middle and high schools. Are there going to be more science assessments? With this potential for change, I hope we move through this slowly with our science and elementary teachers involved. Our current core standards and assessments have been developed by the cooperative efforts of New York science teachers. I hope teachers will continue to contribute their expertise to that process. Before full implementation, programs need to be evaluated for effectiveness. Above

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**Deadline for Fall Issue of the Science Explorer:**

**August 15, 2013**

**Send articles, news, and suggestions to editor in Word format (Ariel 10 pt) at:**

**[glacieregary@aol.com](mailto:glacieregary@aol.com)**

## WHO'S WHO IN STANYS SUFFOLK SECTION LEADERSHIP

The following people can provide information on membership, teacher workshops and other activities. The Subject Area Representatives (SARs) can provide current information on NY State Education Department Core Curricula and testing programs.

◆Indicates individuals who serve in more than one capacity and for whom contact information is listed only once.

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Ashley Bloch ◆

### Physics SAR (Open)

### Retiree SAR

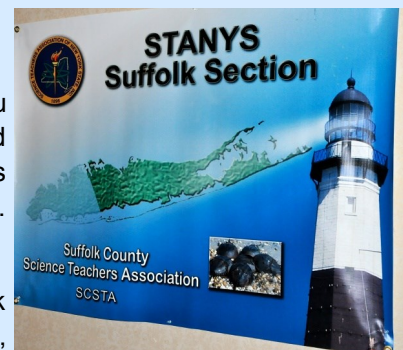
Ed McDaniels  
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## Website & Facebook

Melissa Torre

Suffolk STANYS has its own website at [www.SuffolkSTANYS.org](http://www.SuffolkSTANYS.org). If you visit the website you will get up to date information about scheduled meetings, trips, and events. You will also get access to suggested links separated by subject area & contests your students might be interested in. You can even find some of our newsletters online!

Join the 437 people who liked Science Teachers Association of New York State (STANYS) on [facebook.com](https://www.facebook.com). Keep up with the President of STANYS, Brian Vorwald, as well as other STANYS sections around the state. Connect with science teachers from around New York State.



**Chairperson's Corner** *(continued from page 1)*

*"I look forward to refreshing what we are doing in New York and STANYS is doing its best to be involved and offer input."*

all, with the financial issues facing our schools, consideration must be made to help with the costs of training the teachers so there is a smooth transition to improving science education in

the years to come. I look forward to refreshing what we are doing in New York and STANYS is doing its best to be involved and offer input.

The Suffolk Section is planning exciting events for next year. These include field trips, workshops, our materials fair (MATEX), and our Spring Conference. I hope you find an opportunity to

grow professionally this summer. Teachers are lifelong learners so a break from the school year routines offers a chance to add knowledge and experiences. Look for events, programs and travel that will enhance you as a person and rejuvenate you for another school year. My best wishes for you to enjoy a well deserved vacation.



## Seal Walk at Cupsogue Beach

Gary Vorwald



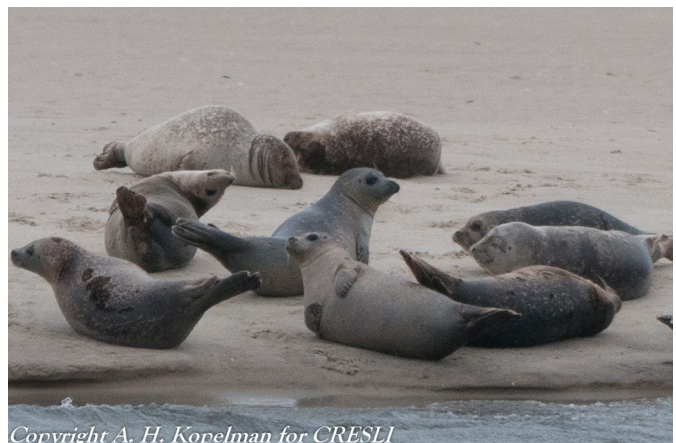
Suffolk STANYS members, joined by students and families from Paul J. Gelinus JHS participated in a Seal Walk at Cupsogue Beach in Westhampton on Sunday, April 7, 2013. The walk was conducted by Dr. Koppelman of the Coastal Research and Education Society of

Long Island (C.R.E.S.L.I). Dr. Koppelman started the program by explaining about the 5 species of seals that are found in Long Island waters. The seals migrate in September from northern waters from Maine to the arctic to winter and mate in the warmer waters of Long Island and New England. Cupsogue Beach and Montauk are two locations that have ideal conditions for the seals. He also explained the difference between seals and sea lions (eared seals). The most common species is the Harbor Seals, but occasional we find hooded and grey seals. Each day, the seals haul out at low tide to rest. They are easily spooked by the noise of planes and people walking nearby. We learned how important it is to stay a fair distance away so that we don't distract them. They will not haul out if they perceive a threat and will not be able to rest. We learned about how to be a responsible seal viewer by staying at least 50 yards away from resting seals, and to be aware of any signs of harassment of the seals. When we arrived we observed 11 seals in the water. Later, at around 11:30 a.m., some started to haul out. Unfortunately, some passersby, who were not with our group, walked along the lower beach and

scared the seals back into the water. Eventually, we observed 11 hauled out and 11 in the water, for a total of 22.

The Seal Walk as an ideal way to learn about Long Island's pinnipeds and local ecology. CRESLI sponsors Seal Walks nearly every weekend from December to May. The walks are approximately 1.2 miles round trip and take 1– 2 hours. These walks are suitable for children and families. You must register for any CRESLI seal walks by calling 631-244-3352. Seal Walks for groups of 10-50 (school groups, scouts, etc.) have to be scheduled separately and can be scheduled on dates other than those listed. Send an email to Dr A. Koppelman for more info: [president@cresli.org](mailto:president@cresli.org)

CRESLI also provides educational information on seals and other marine mammals, and sponsors single day Whale Watch cruises on Sundays, from June 30th - September 8th. Go to their website for more information: <http://www.cresli.org/> ■



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## SCSTA Spring Conference “Spring into Science”

James Ripka, Ph.D



James Ripka (center) coordinated the Spring Conference (pictured with Suffolk Chairperson Glen Cochrane and STANYS President Brian Vorwald)

Our annual Spring Conference was held on April 19, 2013 at SUNY Stony Brook. Thank you to everyone who made it another success for Suffolk STANYS. A special thank you to Linda Padwa and CESAME at Stony Brook for inviting us to use their new conference space at Benedict College. The Conference space is a beautifully renovated open area that was previously the cafeteria in Benedict College.

We were fortunate to have Brian Vorwald, President of the Science Teachers Association of New York State (STANYS), give a presentation on *the Next Generation Science Standards – Earth and Space Sciences*. Mr. Vorwald is a key member on the inside track of discussions concerning the new science standards. He is not only an expert on Earth Science; he is involved in representing statewide concerns and comments to the Board of Regents and NYSED.

*The Henrietta Lacks Story* presentation by Colleen Martin covered the history of HeLa cells and their seminal use in understanding the Somatic Cell Genetics, Biochemistry and Molecular Biology of transformed cells.

Teachers learned to fold Frisbees, Periodic Party Hats, Leaping Lizards, a Piano and an Open Pyramid among other objects at *Origami Science Fun* by James Ripka. Origami makes a routine class become magical

as objects seem to appear with just a few folds of paper. I encourage everyone to explore this practice in conjunction with foldables and other hands on models for learning.

Our Exhibition and breakfast had something for everyone to enjoy. Our Subject Area Representatives presented a diversity of topics from Antarctic travel to opportunities at Brookhaven National Lab and the Center for Science and Math Education (CESAME) at SUNY Stony Brook. Other table top sessions included Foldables, Measuring Matter and Science Research programs. Bagels, croissants, muffins and pastries were feasted on by all. Science is sweet.

Our final workshops included *The Integration of Math and Science and the Evolution of Earth Science* by Cathy Hantz and Louisa McHugh. This included tree structured diagrams charting science paradigms. *Vocabulary in our Classroom* by Melissa Torre highlighted the many techniques Melissa has developed to emphasize vocabulary. Word walls and a triangle puzzle were interesting adaptations. David Knuffke presented on *Standards-Based Grading in the Chemistry Classroom*. He described this truly in depth approach targeting maximal learning in the Honors Curriculum wherein students are able to gauge their own progress step-by-step and re-assess to prove competency if they are lagging. The result is advanced learning, im-

(Continued on page 5)



Suffolk Board members Ashley Bloch and Melissa Torre

*(Continued from page 4)*

proved outcomes and better preparation for AP Chemistry for these students.

Thank you, once again, to the Subject Area Representatives (SARs) and the many people who donated their time to present and prepare this conference. And finally, thank you to the attendees for coming to learn and share with their own communities.

Suffolk STANYS is a volunteer based organization. We can use your help next year. If you have some time, we would love to have you participate in our programs. Please contact Glen Cochrane, our Chairperson, with any ideas or suggestions. We want to both serve your needs and grow with you in learning and professional development. ■



**Scenes from the Spring Conference including table top presentations, workshops, and networking.**

## Opportunities for Teachers & Students



### Science Programs at Stony Brook University – Summer 2013

The Center for Science and Math Education (CESAME) at Stony Brook University is once more sponsoring a series of summer programs for teachers and students.

#### Elementary School Science – Real World Science

This program for teachers, with support from the Toyota Foundation and the Howard Hughes Medical Institute – will focus this year on elementary school science, grades 3-6. The program is open to teachers anywhere in New York State who hold elementary certification and are teaching grades 3-6. Applicants can apply for either of the two sessions: the week of July 8 or the week of July 15. Full details about the program and the application form can be found at the CESAME web site: <http://www.stonybrook.edu/cesame/teachers/RealWorldScience.shtml>

#### Summer Camps for Middle and High School Students

Two to four week camps on topics that include Biotechnology, Forensics, Science Exploration, Mathematics, Engineering, and Physics (new for this summer). See the CESAME web site for more details: <http://www.stonybrook.edu/cesame/students/k-12.shtml>

#### CESAME Programs for Students



The *Center for Science and Mathematics Education (CESAME)* at Stony Brook University invites middle and high school science teachers to bring their students to work in our state-of-the-art laboratory facilities to do inquiry experiments that are rooted in real world science.

CESAME offers five-hour lab experiences in Biology, Chemistry, Earth Science and Physics for Regents and AP level classes. These experiences are designed to expand on material that is addressed in the Core Documents for each science, and to meet some of the more advanced laboratory skill requirements for AP classes. More information about the Teaching Labs and how to schedule a field trip for your classes can be found at the CESAME web site:

<http://www.stonybrook.edu/cesame/students/ScienceTeachingCenter/scienceteachingcenter.shtml> ■

# GeoPREP

## Earth and Environmental Science Workshop for Science Teachers in High Need Schools

GeoPREP is funded by a grant from the National Science Foundation's Directorate for Geoscience



9 AM to 5 PM

Monday July 29 to Friday August 2, 2013

Room 105 ESS Building



Leaders: Professors **Brian Colle** and **Kamazima Lwiza**

School of Marine and Atmospheric Science (SOMAS)

### Schedule of Topics (dependent on weather):

#### Mon. July 29:

AM: Wind-driven and density-driven ocean circulation; tides and waves.

PM: Online access of ocean data

#### Tuesday, July 30:

Sound in the Ocean & creating lesson plans

#### Wednesday, July 31

AM: Online Tools for Weather Analysis. How to interpret a weather map.

Demo: What creates wind/circulation.

PM: Climate Processes: SBU microclimates data collection/lab

#### Thursday, August 1:

AM: Severe storms and tornadoes (Tornado demos);

PM: Trip to NWS (balloon launch) and sounding analysis

#### Friday, August 2:

AM Atmospheric and Marine Measurements on boat in Great South Bay

PM: Analysis of boat data

Stipend: You will receive a stipend of \$500 plus 37.5 hours toward in-service credit for participating.

Maximum Enrollment: 12 Teachers from high-need schools **who did not participate in the summer of 2012.**

(Enrollment will remain open until all openings are filled.)

If you wish to participate, please send an e-mail to [Gilbert.Hanson@stonybrook.edu](mailto:Gilbert.Hanson@stonybrook.edu) with the following information:

Name \_\_\_\_\_ Phone \_\_\_\_\_

e-mail that you check during the summer \_\_\_\_\_

School \_\_\_\_\_

Area(s) of certification \_\_\_\_\_

Subjects that you teach \_\_\_\_\_



**Stony Brook**  
**University**

## ToxRAP™: Curriculum for Students K-9 (Toxicology, Risk Assessment & Pollution)



**ToxRAP™**, an innovative, problem-based curriculum series for grades K-9, helps students and educators understand scientific practices and make informed decisions with real-life applications to reduce their health risks associated with environmental pollutants. ToxRAP™ employs age-appropriate, investigative science, math, health and language arts activities. Modules address national and state education standards and have been indexed to the National Science Education Standards.

### ToxRAP™ Modules

Each of the three ToxRAP™ modules are centered around a case study adapted from real-life situations, directly relating exposure to chemical agents with their impact on human health. Students role-play environmental health scientists and conduct active investigations as they learn to recognize, evaluate and control hazards to reduce health risks. The ToxRAP™ Framework is readily transferable to any environmental health risk. At the conclusion of a module, students demonstrate their mastery of the framework by applying it to new case studies.

#### The Case of the Green Feathers (Grades K-3)

Students use the ToxRAP™ Framework and Map to explain how natural air contaminants, such as pollen, can cause allergic and asthmatic reactions. Students read an illustrated oversized children's book that tells the story of Chick Chock™, a baby chick who awakens from a nap sneezing and covered with green dust.

#### What is Wrong with the Johnson Family

(Grades 3-6) Students become environmental health scientists and use the ToxRAP™ Framework and Map to conduct an investigation into the Johnson family's unexplained health problems. Students conduct a series of activities and games to help them solve the mystery, while investigating potential air hazards in the home.

#### Mystery Illness Strikes the Sanchez Household (Grades 6-9)

Students become environmental health scientists to help the Sanchez family discover the cause of their health problems. Students conduct a simulated health hazard investigation following the ToxRAP™ Framework and Map that guides them to an explanation, while learning about the influence of exposure to a hazard on potential health effects.

For more information, contact: UMDNJ-School of Public Health 335 George Street, Liberty Plaza Suite 2200, New Brunswick, NJ 08901 Tel: (732) 235-4988 Fax: (732) 235-4960 Email: [cscbre@umdnj.edu](mailto:cscbre@umdnj.edu)

Go to the website for more information:

<http://www.toxrap.org/>







## West Meadow Beach

### Summer Environmental Programs

### June 2013—August 2014

SPONSORED BY TOWN OF BROOKHAVEN - Conducted by Eileen Gerle, Environmental Educator

### **Horseshoe Crab Walks**

Did you know that horseshoe crabs really aren't crabs, despite their name? Learn all about these fascinating "ancient mariners" that spawn at West Meadow each spring, and take a walk down the beach to look for pairs coming ashore to nest. **DATES: June 21, July 6 6:30 – 8:00 pm**

### **Bird Walk**

These walks will highlight spring migrants as well as the year-round avian residents of West Meadow Beach. We'll be on the lookout for warblers, orioles, plovers and other shorebirds, herons, egrets, and Ospreys. Walks last approximately 2 hours. **June 29 8:00 am**

### **Seasonal Nature Walks**

Learn about the flora and fauna of West Meadow Beach. These hikes will highlight animals that are seasonal visitors, in addition to the yearlong residents of the peninsula, and focus on the plant communities that make up beach habitats. Binoculars suggested, comfortable shoes, hat, a must. Walks last approximately 2 hours.

### **RESERVATIONS ARE REQUIRED FOR ALL PROGRAMS**

***Meet at the Covered Pavilion at West Meadow Beach, Trustees Road, Stony Brook***

E-mail your reservation to [egerle@brookhaven.org](mailto:egerle@brookhaven.org)

*\*Programs will not be conducted in inclement weather. Dates and times are subject to change.*



*The Portal to Discovery Presents*

## Teacher Professional Development Programs

### **Molecular Ecology and Evolution of the Southern Flying Squirrel**

This course is intended to provide hands-on STEM training in both the field and laboratory and act as a mechanism to develop a course lesson based on the Common Core.

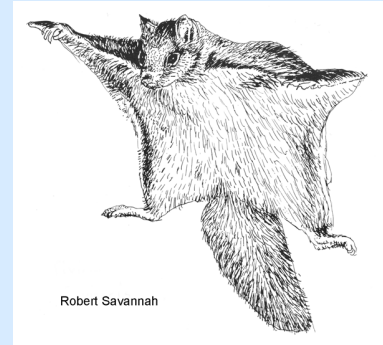
**Date:** June 24—27, 2013

**Time:** 9:00 a.m.—3:00 p.m.

(6:30 a.m.—3:00 p.m. on  
Tuesday and Wednesday for

**Cost:** \$300

**Location:** Sayville High School



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### **SOAR: Aeronautical Engineering for K-6: Alignment to the Common Core**

Participants will be introduced to elementary physics related to flight, propelled and unpropelled. All participants will receive a complete set of workshop materials including PowerPoint presentations and design templates.



**Date:** July 29 - August, 2, 2013

**Time:** 9:00 a.m.—3:00 p.m.

(6:30 a.m.—3:00 p.m. on Tuesday  
and Wednesday for field work

**Cost:** \$250

**Location:** Brookhaven National Laboratory

To register or for more information, visit our website:

<http://www.bnl.gov/education/static/sse/teacher.asp>

**BROOKHAVEN**  
NATIONAL LABORATORY

## Subject Area Representative (SAR) Reports



### Where Is Science Education Going?

Sonja Anderson, Environmental SAR

I am writing this during the annual Board of Directors meeting of STANYS, while paying attention but not to worry because among other things teachers are asked to do, multitasking on a daily basis is something I have determined I am capable of at this point.

We are at a crossroads as classroom teachers, and it is one that I am excited, discouraged and anxious about all at the same time – which is a hard place to be in. I do not believe that I am alone in my feelings either. I think in talking to classroom teachers most of us feel overwhelmed at the changes coming from the state testing requirements, overworked at the amount of “extra” time we are expected to be putting into our evaluations for APPR – it seems the last thing we have time for is coming up with new lessons, inspiring our students, or just doing what most of us dreamed we would be doing when we got our

first job as a classroom teacher – actually teaching.

What education has become and where is it going is uncertain – what does not change is learning. Students are still learning while we are dealing with all of the “extras” – what does stay the same is the teachers. While everything else is changing we are still expected to inspire and teach students science. Some things may evolve but STANYS is an amazing place of support and comfort in an ever-changing world.

My request at this time is to find someone who complains about where education is going, who has no time, who is the least likely candidate and invite them to join STANYS. If we come together and we move through these changes together we will survive and we will be better teachers and a strong voice in science education in New York State.

I have never walked away from a STANYS conference uninspired. I have always learned a new way to teach, a new lesson, a new piece of technology, or a new supporter at the events STANYS offers each year. I know that the annual conference is far from Suffolk County (almost as far as you can get on the other side of the state) but the local events are mini versions of the main event – so I leave with a plea, please encourage a non-member to rejoin, please encourage a teacher that has never supported to become a member of STANYS and become an advocate for the organization that supports the ideas we all started teaching with.

Children need to be inspired – we sometimes need to be inspired and STANYS offers that. The more members and voices we are the more inspiring we are. ■



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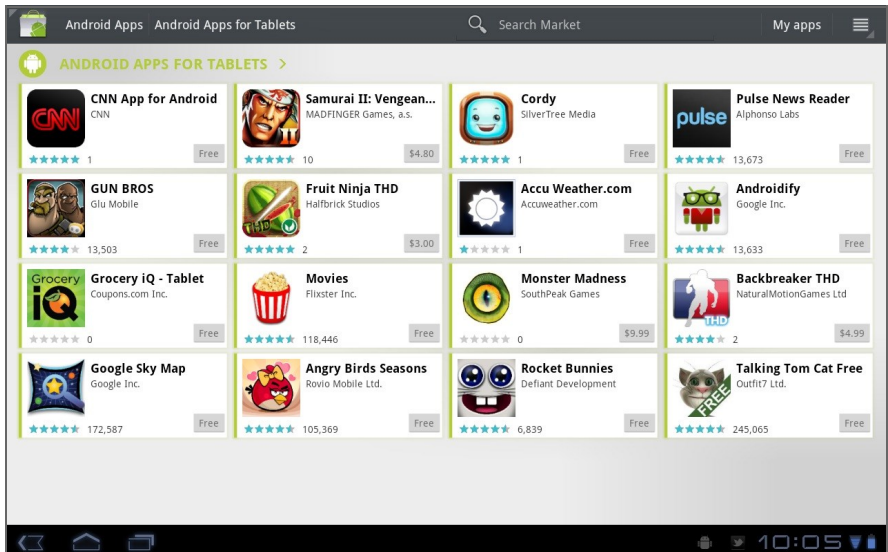
## The Electronic Swiss Army Knife

Ed McDaniels, Retiree SAR

For those of us who travel, things just aren't what they used to be. With TSA restrictions on shampoo bottle size and deadly mouth-wash bottles over 3 oz, packing is more challenging than ever. Couple this with new fees charged by airlines for luggage weight and size, seating reservations and the odd snack, and traveling to a destination is something to be endured rather than enjoyed.

I can't help with the size of your shampoo bottle but I can help with the weight of your suitcase. Multi-function is the keyword to think of. During your travels and vacation you might have some time to relax, some me time. What do you do with it? Are you a reader? Are you a game player? Do you just need to close your eyes and listen to relaxing mood music like at a spa? On my last cruise I brought my IPAD with me. If you have a Kindle or Nexus or Nook, some of these ideas apply to you as well.

On a cruise ship you can sign up for internet connection time and browse your emails every day. Not my idea of getting away from it all and it is also pretty expensive. So having programs or apps that don't need an outside world connection is important. Before I leave for Florida each winter, I download audiobooks from my local library that I can listen to on the drive down. I don't have to change radio stations or listen to regional music that would leave me shaking my head in despair. Before I get on the cruise ship I download a reading book or two that I might enjoy passing time with on those sea days with not as much to do on the ship. They are good for 14 days and I don't



have to worry about returning them, they just go away when time is up. If reading isn't your thing you can still have games to play. I spent some quality time with crossword puzzles and word search puzzles to break up my down time. Sure, you can do Angry Birds, or Fruit Ninja if you need more excitement and chess, checkers, dominoes and mahjong. You can add digital copies of movies to the tablet but often cruise ships have one or two channels of first run movies for free. The tablet can be used for more than just passing the time. I have an alarm clock app that has large numbers, easily readable from across the room without my glasses. It can also serve as a nightlight during the inevitable midnight trips to the bathroom. I went on the cruise to relax so I have an app that plays calming music like at the spa as well as duplicating the sounds of the forest or beach or the rain. I can add other sounds to it like wind chimes, waterfall, campfire or a cat purring. You choose what relaxes you the most.

I also used the astronomy app that allowed me to identify stars and constellations that I don't normally see from Long Island.

All of the apps I have are free and as I add more apps my IPAD doesn't get any heavier. So next trip you take, either short or long, think about enhancing your pleasure with the multipurpose, handy-dandy computer tablet. Happy Traveling! ■



## Professional Development at the AMNH

### Ashley Bloch, Middle Level Science SAR



The American Museum of Natural History (AMNH) offers many exciting and worthwhile professional development opportunities for science teachers

throughout the year. Over the years, I have had the opportunity to participate in many different workshops on a variety of topics. Utilizing the greatest resource that they have to offer, the museum itself, I found that these workshops were a great way to develop lessons that not only used the museum, but their online resources.

Workshops are offered in a variety of topics and usually last 1 to 3 days. I have not had the opportunity to take all offerings, since I choose workshops that would be best suited to what I currently teach (general science and earth science). However, the workshops that I attended were very interesting and useful for my students. I was able to participate in an extensive workshop concerning climate change, where we were able to use data from the Goddard Space Center for analysis. We developed concrete, straight forward examples that we could bring back into our classrooms. We were able to fully explore the museum's Mars exhibit and review the materials that the museum had created and offer suggestions of follow-up lessons that would be an excellent complement to what they had already done. I also participated in a workshop about the ecology of the Hudson River and the zebra mussels

that are present – we even took a short excursion to the Hudson River to collect data that we could use with our students.

While many of the workshops were geared towards teachers in New York City, it was worthwhile to teachers from all over. This was evident by the geographic diversity of where the teachers who participated taught. It was also rewarding to be able to meet with teachers from all over the tri-state area. All too often, we teachers are only able to discuss techniques and strategies with our peers within our own district or located somewhat nearby. Here, I was able to learn what fellow educators were doing in various boroughs of the New York City, upstate New York, New Jersey, and Connecticut. Additionally, it was eye-opening to hear the thoughts of other educators regarding the Next Generation Science Standards and Common Core – I find it can be very easy to live in the bubble of one's district or of just Long Island.

A nice bonus to these professional development workshops is that they are free and sometimes even include a small stipend for attending. However, you do need to apply and have a recommendation from your principal. For more information regarding these workshops, please visit the museum's website at:

<http://www.amnh.org/learn-teach/educators/workshops-institutes-and-courses>

## Experience Seminars on Science

Online Courses for Educators

Since 2000, Seminars on Science, an online professional development

program at the **American Museum of Natural History**, has engaged thousands of educators around the world in cutting-edge research and provided them with powerful classroom resources. The program offers twelve online graduate courses in the life, Earth, and physical sciences. Each course is rich in essays, images, videos, interactive simulations and vibrant discussions that connect learners to the Museum's scientists, laboratories, expeditions and specimens. Graduate credit is available for all courses through partnerships with eight colleges and universities.

Upcoming course offerings have been posted for this summer and next fall.

### Summer 2: July 1—August 11, 2013

*The Ocean System, Genetics, Genomics, Genethics, Evolution, The Solar System, The Diversity of Fishes, Earth: Inside and Out, In the Field with Spiders, Water*

### Fall 1: September 23—November 2013

*Water, Earth: Inside and Out, Evolution, Space, Time and Motion, Genetics, Genomics, Genethics*

For more information and to register go to:

<http://www.amnh.org/learn/Courses>

Phone: 800-649-6715

Email: [seminfo@amnh.org](mailto:seminfo@amnh.org)

## Selected Earth Science Sites of the Week from Mark Francek

Melissa Torre, Earth Science SAR

|                    |  |
|--------------------|--|
| <b>Site Name</b>   | An Abbreviated Guide for Teaching Climate Change from AAAS   |
| <b>Site URL</b>    | <a href="http://www.project2061.org/publications/guides/climate.pdf">http://www.project2061.org/publications/guides/climate.pdf</a>  |
| <b>Description</b> | “Drawing on several Project 2061 resources, the guide focuses on the ideas and skills that are central to understanding the science of climate change, the process of scientific inquiry, and the trade-offs and constraints implicit in making choices about technology.” |

|                    |   |
|--------------------|---|
| <b>Site Name</b>   | Using NASA Data for Weather Lesson Plans  |
| <b>Site URL</b>    | <a href="http://myasadata.larc.nasa.gov/students/">http://myasadata.larc.nasa.gov/students/</a>   |
| <b>Description</b> | “MY NASA DATA is an online avenue whereby educators can bring NASA data into their classroom and provide students with real-world science experiences. The website offers a growing collection of over 120 standard based lesson plans to help teachers get started with data exploration.” |

|                    |  |
|--------------------|--|
| <b>Site Name</b>   | USGS Educational Resources   |
| <b>Site URL</b>    | <a href="http://education.usgs.gov/">http://education.usgs.gov/</a>              |
| <b>Description</b> | Find reviewed resources for biology, geography, geology, water, and much more... |

|                    |  |
|--------------------|--|
| <b>Site Name</b>   | Estuary Education  |
| <b>Site URL</b>    | <a href="http://estuaries.noaa.gov/">http://estuaries.noaa.gov/</a>  |
| <b>Description</b> | “Welcome to estuaries.noaa.gov where we aim to advance estuarine and coastal literacy. Explore these living classrooms and laboratories, our estuaries. Discover their importance and beauty and learn what you can do to protect them.” |

|                    |   |
|--------------------|---|
| <b>Site Name</b>   | View Sand Samples from Around the World   |
| <b>Site URL</b>    | <a href="http://www.scienceofsand.info/sand/twofiftynew.htm">http://www.scienceofsand.info/sand/twofiftynew.htm</a> |
| <b>Description</b> | This site provides pictures and reflectance values for hundreds of sand samples from around the world.              |

|                    |   |
|--------------------|---|
| <b>Site Name</b>   | <b>50 Amazing Facts About Earth</b>   |
| <b>Site URL</b>    | <a href="http://www.universetoday.com/101604/50-amazing-facts-about-earth/">http://www.universetoday.com/101604/50-amazing-facts-about-earth/</a>   |
| <b>Description</b> | “Do you know how much material falls onto Earth from space every day? How many different species there are in the ocean? How far the continents move every year? In honor of Earth Day here’s a very cool infographic that answers those questions about our planet — and 47 more!” Some claims are off like the one about dinosaur size and the world’s highest temperature but the site will stimulate discussion.” |

|                    |   |
|--------------------|---|
| <b>Site Name</b>   | <b>Visualization Shows Ocean Surface Currents in Unique Fashion</b>   |
| <b>Site URL</b>    | <a href="http://svs.gsfc.nasa.gov/vis/a000000/a003800/a003827/">http://svs.gsfc.nasa.gov/vis/a000000/a003800/a003827/</a>   |
| <b>Description</b> | This visualization shows ocean surface currents around the world during the period from June 2005 through December 2007. The visualization does not include a narration or annotations; the goal was to use ocean flow data to create a simple visceral experience. |

|                    |   |
|--------------------|---|
| <b>Site Name</b>   | <b>Demonstrating the Water Cycle</b>  |
| <b>Site URL</b>    | <a href="http://raisingsparks.com/kids-science/a-pint-pot-planet/">http://raisingsparks.com/kids-science/a-pint-pot-planet/</a> |
| <b>Description</b> | This is a super experiment to demonstrate the water cycle.  |

## Save the Date!

### Materials and Textbook Exhibit 2013

(MATEX)

Hyatt Regency Hotel, Islandia

(New Location!!!)

**Thursday, October 24, 2013**

Our next Materials and Textbook Exhibit will be held at the Hyatt Regency Hotel on Thursday, October 24, 2013. As in the past, we expect about 40 vendors to present the most recent textbooks, lab equipment, and computer programs for science educators. The vendors are always generous with giveaways and we have many door prizes to be won!! The event is FREE and will run from 3 pm to 6 pm. Don't miss this opportunity to find out the latest innovations to be used in the science classroom. Door prizes will be offered.

## Maria Brown Recognized for Excellence

Maria Brown, a research science teacher at Sayville High School, and an active member of Suffolk STANYS, received two awards this year for her excellence in teaching. The Science Museum of Long Island recently named Maria as a recipient of the 2013 Outstanding Advocate for Science & Technology Award. She was honored on Wednesday, February 6th at the Westbury Manor for her contributions toward the advancement and education of science and technology.

Long Island University Post presented her with the Long Island Secondary School Teacher of the Year Award at the 55th Commencement exercises on Friday, May 10, 2013. She was recognized for her reputation as a passionate educator whose hands-on, creative methods captivate students and inspire them to enter the fields of science and technology. Ms. Brown is a 2005 graduate with an M. S. degree in Environmental Science.

Ms. Brown began teaching science at Sayville High School in 1999. During her tenure, she has implemented innovative programs that promote and develop interest in the science, technology, engineering and math (STEM) disciplines. Ms. Brown established the STEM Institute for high school students; field-oriented environmental science courses that are aligned with the AP Environmental Science College Board curriculum; enrichment studies abroad in Costa Rica and the Peruvian Amazon for AP students; and a two-year inclusion earth science program. She also serves as the adviser to Students Working for Enhanced Environmental Projection.

In addition, Ms. Brown developed a Research in Science and Education (RISE) program that encourages high school students to explore science as a process as they work on independent research projects and collaborate with professionals at Stony Brook University and Brookhaven National Laboratory. Under her tutelage, some of her students have been named finalists and semifinalists in prestigious competitions, including the Siemens Competition in Math, Science & Technology and the Intel Science Talent Search. Her expertise and energy isn't limited to working with students in the high school. She works with younger students in the district through SOAR, an elementary aeronautical engineering program, where gifted and talented fourth- and fifth-grade science and math students team up with mentors in the fields of aerospace and flight, including pilots as well as engineers from NASA, to build complex, high-performance paper airplanes. The program culminates in a competition, widely attended by members of the community. As the adviser to the Explorer's Club, she mentors middle school students as they re-



search many different branches of science, through the exploration of local resources.

In the words of Sayville High School principal Ronald Hoffer, "All students who come into contact with Ms. Brown respond to her caring, enthusiastic approach. She is the epitome of a dedicated, caring master teacher."

A guest lecturer at Stony Brook University and a professional wetland scientist, she has presented at national conferences, published papers in renowned journals and is a member of numerous professional affiliations. She has been honored by myriad groups, including the Science Museum of Long Island and the Great South Bay Audubon Society.

The things she enjoys most is spending time with her family, exploring new places, skiing, hiking, kayaking, and listening to music. ■





## Outstanding Students and Teachers Recognized at the 38th Annual Awards Dinner

Brian Vorwald, Awards Dinner Co-Chair

Each year the STANYS Suffolk Section presents an Awards Dinner at which outstanding science students and science educators are honored. The dinner this year was held on May 22, 2013 at the Hyatt Regency Long Island Hotel in Hauppauge.. Each high school science department from districts who are patrons of our *District Membership Services Program* had the opportunity to nominate an outstanding graduating senior to be recognized at the Awards Dinner. Twenty six high schools recognized their outstanding seniors and three teachers (elementary, middle level, and high school) received our *Science Teacher of the Year Award* for meritorious service as science educators. The event was attended by more than 100 people.

Our 2013 Elementary Science Teacher of the Year was **Melinda Moran** who teaches at the Lincoln Avenue Elementary School in the Sayville School District. **Gary Vorwald**, who teaches at Paul J. Gelinus JHS in the Three Village Central School District was honored as the Middle Level Science Teacher of the Year and **Brad Kenedy** of Bay Shore High School was the 2013 High School Teacher of the Year.

Look for a comprehensive article in the Fall 2013 issue of this publication that will recognize our three **Teacher of the Year Award** recipients and all of the outstanding senior science students from each high school.

Photos from the event are posted on our website at: [http://www.suffolkstanys.org/index.php?p=1\\_46\\_Suffolk-STANYS-Awards-Dinner-2013](http://www.suffolkstanys.org/index.php?p=1_46_Suffolk-STANYS-Awards-Dinner-2013) ■



2012 - 2013 Science Teachers of the Year Honorees. Left to right: Brad Kenedy (High School), Melinda Moran (Elementary), and Gary Vorwald (Middle School)



## Suffolk County Teams Place 5th and 8th in the National Science Olympiad Tournament

Two teams from the Three Village Central School District in Setauket represented New York State and Suffolk County at the National Science Olympiad Tournament in May. Extending their award-winning competition season, this year's Ward Melville High School and P.J. Gelinas Junior High School Science Olympiad teams had one of their most impressive showings to date, as both teams placed among the top 10 teams in their divisions at the National Science Olympiad Tournament. During the contest, held this May at Wright State University in Ohio, Ward Melville was ranked fifth and Gelinas placed eighth. In addition to their overall ranking, Gelinas earned medals in four events (one gold, two bronze and one fifth-place medal) while Ward Melville won seven medals (two sil-

ver, one bronze, one fourth-place medal and three fifth-place medals) in this very competitive national tournament.

"It is truly a pleasure to be a part of the most talented Science Olympiad team in Ward Melville history," stated Ward Melville coach Steve Malusa. "It was very exciting and gratifying to see all the hard work from this year culminate in the national tournament," added Gelinas coach Gary Vorwald. "As a teacher and coach, you always want your students to strive for their potential. Science Olympiad has been one of the most gratifying experiences I have had in education. I am honored to have the opportunity to work with such gifted students, and it is so rewarding to see that my efforts have had an impact in help-



ing them achieve their goals."

Only 60 teams from across the nation were invited to compete at this prestigious competition. Invitation to the national tournament is based on a team's rank at their state competition. Earlier this year,

*(Continued on page 19)*



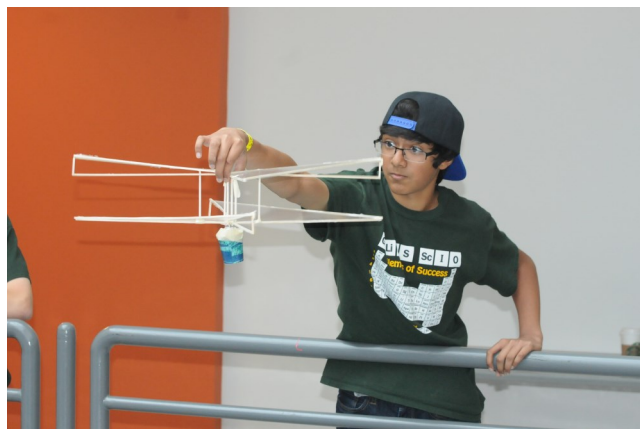
**Ward Melville High School placed 1st in the county, 1st in NYS, and 5th in the Nation!**

(Continued from page 18)

Gelinas' team placed first in the Rustin Invitational, Eastern Long Island Regional and New York State tournaments. Ward Melville placed first in the high school division at the Eastern Long Island Regional and New York State tournaments.

Teams begin organizing in the early fall. When schools register, coaches receive a coach's manual with a description of the events. Each year the Board of Directors at the National and State level propose and decide which events are kept and what new events will be offered. Students split up the events and the preparations begin. Many coaches attend regional coach's clinics to get insight and tips from experienced coaches and event writers. For more information, go to the National Science Olympiad web site (<http://www.soinc.org/>) and you'll find all sorts of useful information. For more information on how to register a team, go to New York State Science Olympiad at:

<http://newyorkscioly.org/> ■



**Paul J. Gelinas Junior High School placed 1st in the county, 1st in NYS, and 8th in the Nation!**

## Grant Opportunities



*Funder:* Randi Educational Foundation

*Program:* Grants for educators

*Summary:* In its continuing efforts to provide resources to teachers and other educators, the Foundation is proud to announce its grants for educators. These grants of up to \$500 each are intended to help offset the cost of developing or improving critical thinking and scientific skepticism programs in the classroom and beyond. The grants will be awarded annually to educators of grades K-12 to help improve the education of their students, school and/or community in the methods of science and critical thinking through the examination of the paranormal and pseudoscience. Grants will allow teachers to purchase materials and / or equipment for the classroom, school or community for use in skepticism and critical thinking education; begin new school and / or community skepticism and critical thinking outreach and educational programs; enhance and expand existing skepticism and critical thinking educational programs; attend courses, workshops or conferences related to scientific skepticism that will significantly enhance their teaching activities.

*Deadline:* N/A

URL: <http://www.randi.org/site/index.php/component/content/article/37-static/1066-education.html>

*Funder:* Motorola Solutions

*Program:* Innovation Generation Grants 2012

*Summary:* The Foundation will provide \$4.9 million in funding to U.S. science, technology, engineering and math (STEM) education programs. This year's grants will be allocated by two categories. Local Impact Grants target innovative, hands-on STEM education programs for U.S. elementary through university students and teachers. Grant requests must be between \$15,000 and \$60,000 for projects that start after June 2012. National Partnership Grants support large-scale, multi-regional STEM education programs that impact at least 150 primary participants. Grant requests must be between \$50,000 and \$250,000 for projects that start after June 2012. Projects may last up to one year.

*Region:* Priority will be placed on programs that serve the Motorola Solutions communities in and around the greater metropolitan areas Long Island, N.Y

*Deadline:* N/A

URL: <http://responsibility.motorolasolutions.com/index.php/communityinvestment/education/iqg/>



*Funder:* Rockwell Collins, Inc.

*Program:* Charitable Corporation. Community Partnership Fund

*Summary:* Rockwell Collins has two funding vehicles: the *Charitable Corporation* and the *Community Partnership Fund*. Within these entities, we have identified two distinct funding priorities, and special consideration will be given to proposals that integrate these issues: 1. education, with emphasis in math, science, engineering and technology (STEM); and 2. culture and the arts, with emphasis on youth educational programs. Rockwell Collins also contributes to Health and human services and civic organizations. The *Charitable Corporation* was established for the exclusive purpose of supporting qualified non-for-profit organizations in the communities where our employees live and work. These grants are targeted for major projects and programs and generally total \$5,000 or more. Budgeting for these grants is done annually, with approval in October. We request that grant applications are submitted prior to September 1. ... The purpose of the *Community Partnership Fund* is to support qualified not for profit organizations with fundraising, sponsorships and other events/activities. These grants generally total less than \$5,000. Applications are accepted on an ongoing basis, with decisions rendered within six weeks.

*Deadline:* Open

URL: [http://www.rockwellcollins.com/Our Company/Corporate Responsibility/Community Overview/Charitable\\_Giving.aspx](http://www.rockwellcollins.com/Our Company/Corporate Responsibility/Community Overview/Charitable_Giving.aspx)



**Science Matters**, formerly *Building a Presence* (BaP), is an electronic network initiated by the National Science Teachers Association (NSTA). STANYS is the lead organization in NYS. The purpose of Science Matters/BaP is to reduce isolation of teachers of science, K-16, and to keep them informed about professional development in their region, the state, and nationally. Points of Contact can sign themselves up as PoC's. The Point of Contact for his/her school receives digital information that will then be shared with colleagues. At present, there can be more than one PoC per school. It is important that you be a

## Science Matters to all Teachers and Students!

Nancy Ridenour

part of this network to receive information about grant opportunities and professional development.

Please consider being a Point of Contact (PoC) for your school. The success of this network requires all buildings to be represented. Easy step by step directions can be found at: <http://www.stanys.org/progbap.htm>

The **Science Matters** website is: <http://bap.nsta.org/Content/Home/BecomeAContact/Default.aspx>

There are three options as a Point of Contact:

a. If you are representing all the teachers of science in your building, be sure to include all the grades, and all science subjects for teachers

whom you are representing, not just what you teach.

b. If you are representing a subset of teachers in your building, be sure to include just those grades and subjects of teachers you represent, not just what you teach.

c. If you are representing just yourself, include just the grade(s) and subject(s) that you teach.

Please consider volunteering as a PoC. You will be a great resource for your colleagues and students.

If you have any questions, contact Nancy Ridenour at: [nridenour@twcny.rr.com](mailto:nridenour@twcny.rr.com) ■



**New York State Champions Ward Melville High School at National Science Olympiad Tournament**

## SCIENCE on LONG ISLAND

### MAKE A DIFFERENCE

*There Couldn't be a Better Time to be a STANYS Member!*

**STANYS MEMBERSHIP** helps us to be the best science teachers we can be. If you are not yet a member or if your membership has lapsed, please join and become part of New York's oldest and most respected professional association of science educators!

**STANYS supports its membership through:** *Networking, Friendships, and Collaboration; Professional Development Workshops; STANYS' Annual State Conference; Updates on what is Happening in Education throughout the State; State Science Congress and Science Olympiad Information; Access to the STANYS DALs and SARs; The STANYS Newsletter; E-Blasts; The Science Teachers Bulletin; Section Meetings and Updates; and Opportunities for Leadership*

Your membership in STANYS  
INCLUDES membership in **Suffolk Section**  
—  
TWO for the price of one!

**AND the Suffolk Section of STANYS is all about Service to You, the Long Island Science Teacher!**

**Suffolk Section publishes several newsletters each year.** Each issue includes SAR articles disseminating current information in each discipline, a Chairperson's report which addresses state updates and other issues in science education, details about local science contests, workshops, and field trips, and other items of interest ***specifically to Long Island educators.***

**Suffolk Section provides Conferences and Workshops** throughout the year, offering information ***directly pertaining to teaching on Long Island***, presented by local experts -- classroom teachers just like you! These gatherings provide opportunities to learn more about your discipline, get information about local activities, and provide the chance for networking with colleagues. Lab activities, innovative teaching strategies and demonstrations are just part of what's offered!

**Suffolk Section offers Professional Development Hours** close to home, and ***directly related to teaching on Long Island.***

**Suffolk Section hosts MATEX (Materials and Textbook Exhibit)** each October. Vendors display and discuss the latest textbooks, science equipment, and field trip opportunities. ***Free Admission and Give-aways*** are always a part of the program!!

**Suffolk Section holds an Awards Dinner** each May honoring outstanding ***Suffolk County*** high school seniors and exemplary teachers.

**Suffolk Section provides Local Leadership Opportunities** and the chance to share experiences with your colleagues ***in districts throughout Suffolk.*** You have an open invitation to each monthly Section planning meeting.

*(Continued on page 23)*

(Continued from page 22) Membership

**But most importantly, Suffolk Section STANYS provides us,  
as Long Island's Premier Science Educators,  
the Opportunity to Make a Difference in Education in Suffolk County!**

***The Suffolk Section of STANYS is your professional organization - JOIN US TODAY!***

Use the membership form below or join electronically using the form at the  
STANYS website: <http://www.stanys.org>

For more information, email Sheilah Schumann, Vice-Chairperson, Membership at:  
[sheilah\\_s@yahoo.com](mailto:sheilah_s@yahoo.com)

### STANYS MEMBERSHIP FORM

| Please Print                              | Dues*               | Check One                     |                               |
|---|---------------------|-------------------------------|-------------------------------|
| Date _____ New ___ Renewal _____          |                     | 1-YEAR                        | 2-YEAR                        |
| STANYS ID (If known) _____                | Elementary          | <input type="radio"/> \$44.00 | <input type="radio"/> \$82.00 |
| Name _____                                | Intermediate/Jr. HS | <input type="radio"/> \$44.00 | <input type="radio"/> \$82.00 |
| Street Address _____                      | High School         | <input type="radio"/> \$44.00 | <input type="radio"/> \$82.00 |
| City _____ State _____ Zip _____          | College             | <input type="radio"/> \$44.00 | <input type="radio"/> \$82.00 |
| Home Phone (_____) _____                  | Associate           | <input type="radio"/> \$44.00 | <input type="radio"/> \$82.00 |
| School/Organization _____                 | Retired             | <input type="radio"/> \$23.00 | <input type="radio"/> \$42.00 |
| Street Address _____                      |                     |                               |                               |
| City _____ State _____ Zip _____          |                     |                               |                               |
| School/Organization Phone (_____) _____   |                     |                               |                               |
| Preferred Email _____                     |                     |                               |                               |
| Subjects taught or position _____         |                     |                               |                               |
| Last year of membership _____             |                     |                               |                               |
| Section to which you wish to belong _____ |                     |                               |                               |

**Free Student Membership**

Enrollment in a teacher preparation program is required. A letter on institutional letterhead by a college faculty member or a cooperating teacher verifying the student's eligibility must accompany this application annually.

Join us for our monthly meetings. They alternate between the first Wednesday or Thursday of each month.

**Dates for 2013-2014 will be announced. Meetings will resume in September.**

Meetings are at 7:00 p.m. at BOCES II on Deer Park Ave., Dix Hills



**The results of the 2013-2014 STANYS Suffolk election are:**

**Chairperson and Section Director: Glen Cochrane**

**Vice Chairperson Programs: Ashley Block**

**Vice Chairperson Membership: Sheilah Schumann**

**Treasurer: Angela Lukaszewski**

**Secretary: Gary Vorwald**

**Section Director: Melissa Montauk**

